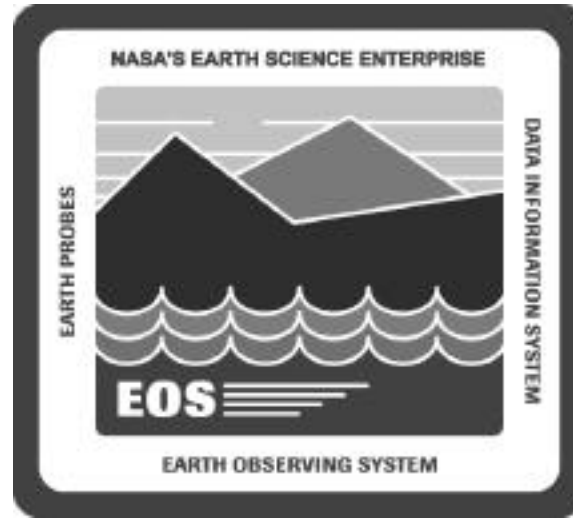


# **ECS SDPS 5A Consent To Ship Review**

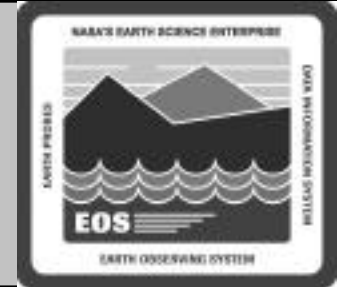
**21 July 1999**



# Introduction & Agenda

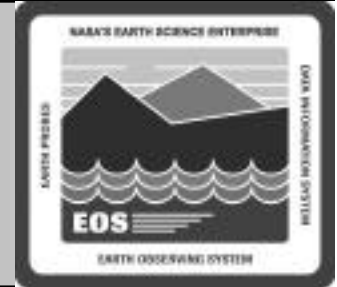
**Ron Klotz**

# Agenda

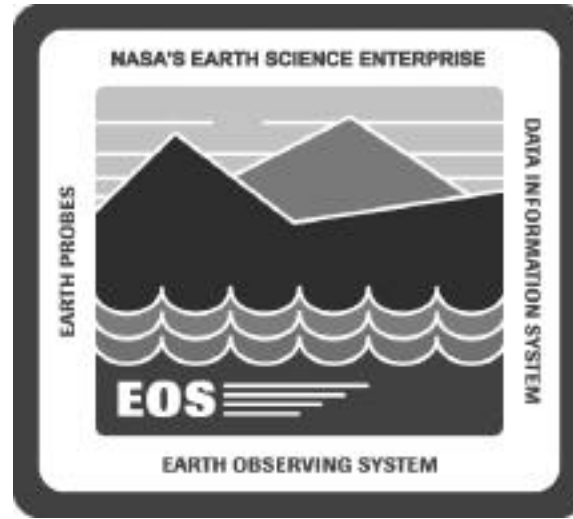


- |                                 |           |         |
|---------------------------------|-----------|---------|
| • Introduction and Agenda       | R. Klotz  | 1:00 PM |
| • 5A System Functionality       | S. Fox    | 1:10 PM |
| • Release 5A Test Status        | S. Fox    | 1:30 PM |
| • Non-Conformance Report Status | R. Miller | 1:50 PM |
| • Break                         |           | 2:30 PM |
| • Physical Configuration Audit  | R. Gorsky | 2:45 PM |

# Agenda (Cont.)



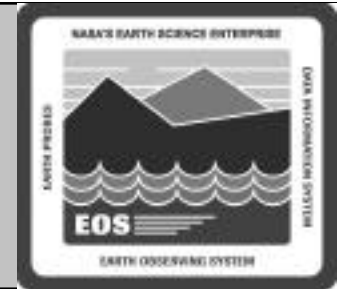
- |   |             |         |
|---|-------------|---------|
| • Functional Configuration Audit          | J. Spyrison | 3:05 PM |
| • CDRL Documentation Summary              | V. Maclin   | 3:10 PM |
| • Post-CSR Installation and<br>Transition | D. Stafford | 3:20 PM |
| • ECS Support to Site Readiness           | J. Edwards  | 4:05 PM |
| • Concluding Remarks                      | R. Klotz    | 4:15 PM |



# 5A System Functionality

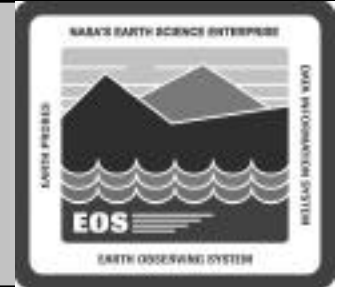
**Steve Fox**

# System Capabilities Added in 5A



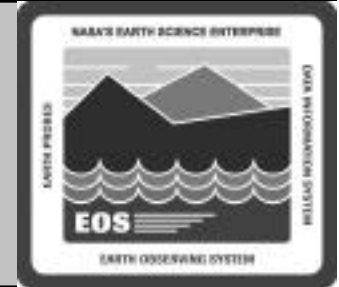
- Upgrades for Y2K
  - External interface for replacement orbit data from FDS
  - PDPS internal delete from archive
    - Allows PDPS to cleanup temporary products
  - ★ DAO ingest
    - “First-Look” products (DFLAPCHM, DFLAPMIS, DFLAXCHM, DFLAXCLD, DFLAXENG, DFLAXLSM, DFLAXMIS, DFLAXSTR)
    - “Late-Look” products (DLLAPMIS, DLLAXMIS)
  - ★ Ingest and archive of SAGE III Level 0 data from the MOC
    - Level 0 data is made available to the SAGE III SCF via standard subscription services
- ★ Capability delivered in a Release 4 patch but formally tested as part of Release 5A

# System Capabilities Added in 5A



- ★ **High volume data ingest from external processing systems using the SIPS interface**
  - Data providers: MODAPS (including MODIS Oceans), MOPITT
  - Note: Support for additional SIPS data providers (LaTIS, SAGE III, ACRIM) has been held up due to lack of test data. Will be provided in a 5A patch along with support for ASTER DEM
- ★ **Cross-DAAC (unsubsetting) data transfers to support data production (also support for cross-mode data transfers)**
- ★ **Ingest and archive of Landsat 7 IGS metadata (format 0 only)**
- **Order production history data**
- **System Management enhancements - Sybase monitoring, host resource monitoring using Tivoli**
- **~250 NCR fixes**
  - ★ Capability delivered in a Release 4 patch but formally tested as part of Release 5A

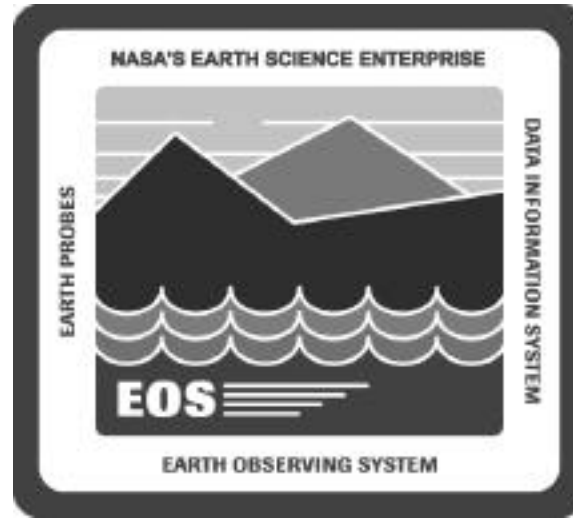
# System Capabilities Added in 5P



## **Additional capabilities to be delivered as a patch to 5A**

- **V0 Gateway support for all ECS Core Metadata attributes and PSAs**
- **Support for adding new attributes and services to an ESDT without re-installing it**
- **4PY to 5A transition scripts**





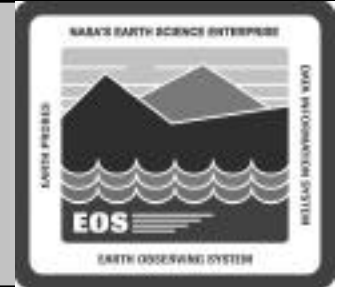
# Release 5A Test Status

**Steve Fox**

**July 21, 1999 Consent-To-Ship Review (CSR)**

**Raytheon Raytheon Systems Company**

# Agenda



**Verification Approach**

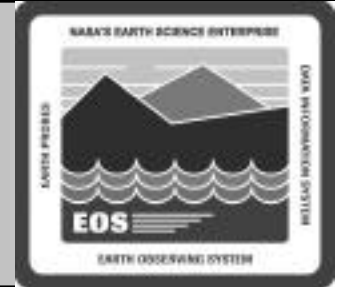
**Verification Results (New Capabilities)**

**Verification Results (Y2K)**

**Site Test Plan**

**NSIDC End-To-End Test Plan**

# Verification Approach



**Acceptance criteria “tickets” were defined for each Feature Group (i.e. group of related features)**

- Criteria covered functional components, error conditions, and performance
- Criteria were approved by ESDIS
- Test procedures were developed and assessed for completeness and coverage by ECS system engineering and then approved by ESDIS

**Test procedures were dry run in VATC/Mini-DAAC before formal execution**

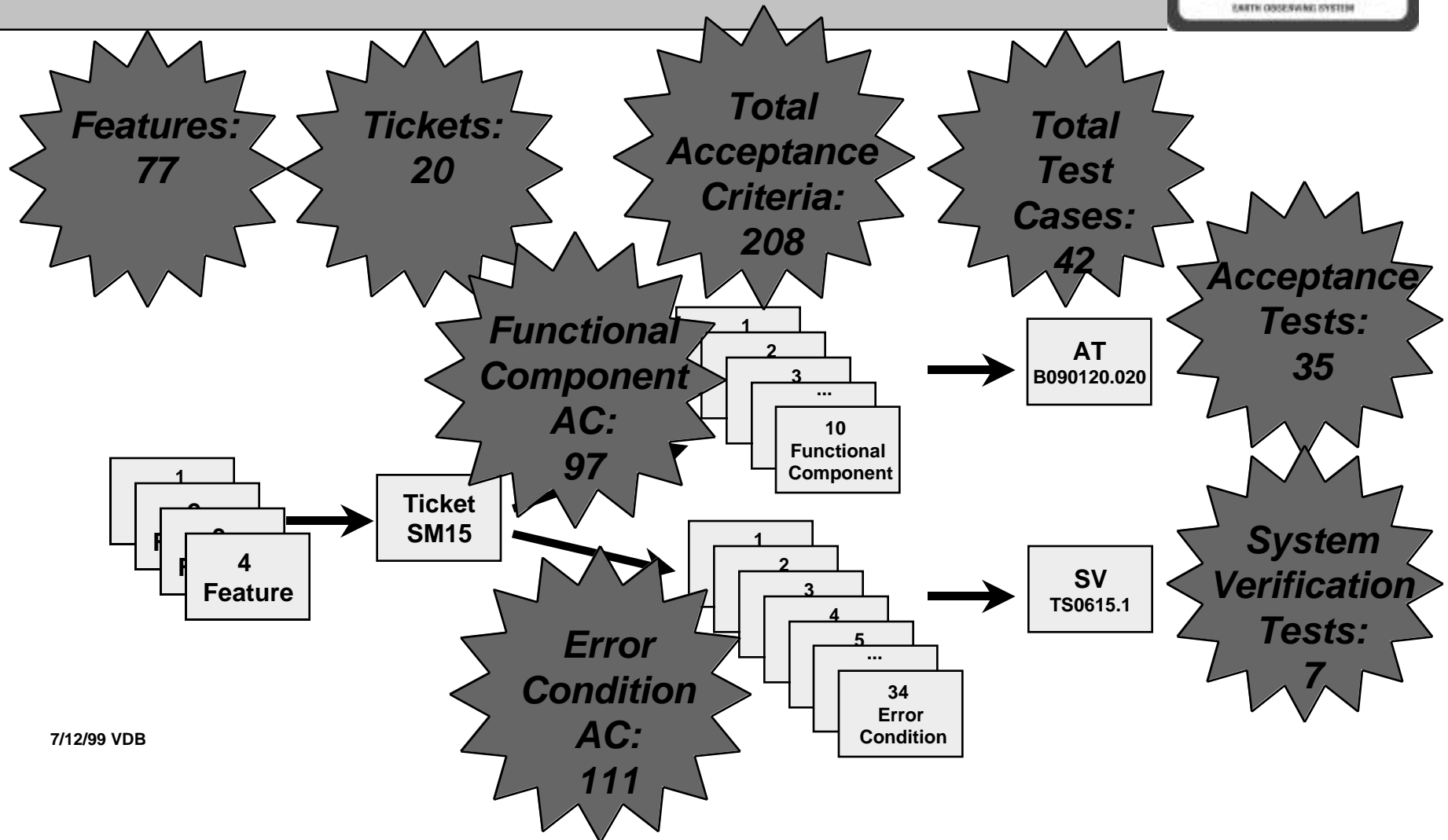
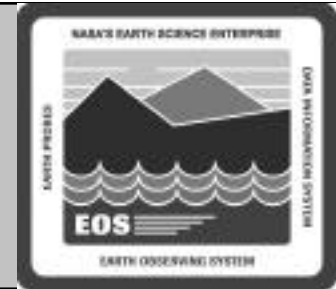
**Formally executed test procedures in the VATC/Mini-DAAC in the presence of authorized witnesses**

**Test status maintained by ESDIS in a Verification Database (VDB)**

**Performance criteria are only applicable to NSIDC and will be verified during End-to-End test at NSIDC in Aug-Sep**

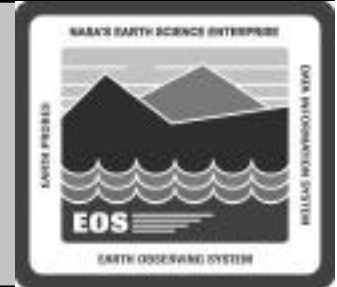
**Several criteria, (cross-DAAC, DPREP) will be verified at the DAACs after 5A delivery**

# Release 5A Verification Execution (Release 5A Totals)



7/12/99 VDB

# Verification Status Definitions



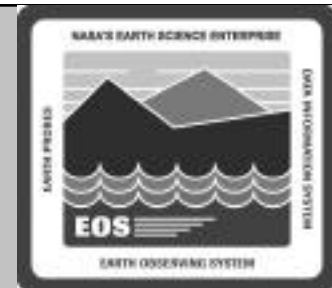
**Feature Group (FG) - a set of related features**

**FC, EC, PC -- Functional Component, Error Condition, Performance Criterion**

## **Verification Status**

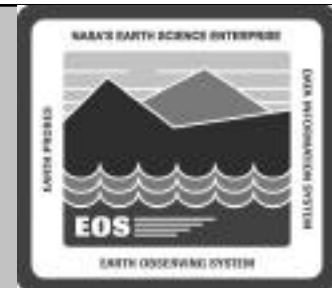
- **V = Verified by ECS or ESDIS Test Program (no severity 1 or 2 NCR against criterion)**
- **W = Nominal cases have been verified**
- **NV = Not Verified**
- **NT = Not Tested**
- **NA = Not Applicable -- no FG criteria to test for this FC, EC, or PC area**
- **VN = Verified Near-term (performance only)**
- **I = Inadequate (performance only)**

# Feature Group Status (1 of 7)



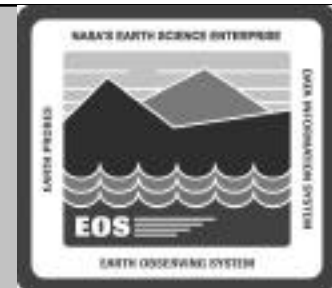
Functional Category	Feature Group Title	FC Status	EC Status	PC Status	Status Comments
Ingest	FDD Interface	W	W	V	5A adds ingest of replacement orbit data from FDS. 3 of 4 FC verified, one NT. Will be tested at GDAAC after code is deployed. 1 of 2 EC verified, NCR 23155(3). Invalid year/day in FDD orbit filename not detected.
Ingest	EMOS Interface	W	V	NA	5A adds ingest of Detailed Activity Schedule from EMOS. 6 of 7 FC verified. 2 of 2 EC verified. No support for DAS updates at this time. Workaround is to replan when update arrives.
Ingest	ASTER D3 Interface	V	W	I	18 of 21 criteria verified. All FCs verified. One low risk EC not verified (invalid originating system parameter). Ingest stability impacts D3 throughput (to be fixed in July). 5A adds conversion of L1A/L1B corner points to qpolygon. 1 of 1 FC verified.

# Feature Group Status (2 of 7)



Functional Category	Feature Group Title	FC Status	EC Status	PC Status	Status Comments
Ingest	SAGE III L0 Interface	W	W	NT	5A adds ingest of L0 from MOC. 5 of 6 FC verified, FtpPush delivery of PANs not supported by ECS. 25 of 29 EC verified. NCRs 21313(3), 18187(3), 23073(3). Low risk - related to handling of error conditions. Performance to be verified by LDAAC during MOSS-2. Also, NCRs 23260(2), 23270(2), 21621(2), 22502(2) related to missing PSA and valids for SAGE III higher level products.
Ingest	Landsat 7 IGS Interfaces	NV	W	NT	5A adds electronic ingest of F0 metadata. 3 of 4 FC verified. NCR 23406(1) IGS metadata can't be ingested due to db configuration problem. NCRs 23071(3), 23236(3). PDRD not generated if PDR has missing or invalid originating system provider. 17 of 21 EC verified. NCRs 21313(3), 18187(3), 23284(3), 23073(3). Low risk - related to handling of error conditions. Performance to be verified by EDAAC.

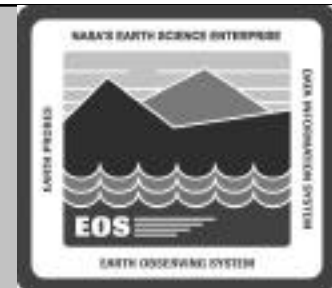
# Feature Group Status (3 of 7)



Functional Category	Feature Group Title	FC Status	EC Status	PC Status	Status Comments
Ingest	SIPS Interfaces	W	W	NT	5A adds ingest of granules, browse, QA and production history from SIPS data providers, as well as, ingest of standard ECS products. 10 of 11 FC verified, NCRs 23360(3), 23379(2). Email PANs occasionally not sent. QA granules aren't linked to science granules. 28 of 34 EC verified. NCRs 21313(3), 18187(3), 23274(3), 23073(3), 23374(2), 23365 (2), 23370(2). Incorrect parsing of LGID. Problem ingesting dependent granules that arrive out of order. Problem ingesting metadata file that contains a non-existent LocalGranuleId. Low risk items related to handling errors. PC to be verified at the DAACs. NCR 23324(2) Reconfigure GDAAC so MODAPS data stages to drq instead of icg.
Ingest	DAO Interface	V	W	NA	5A adds ingest of first-look and late-look DAO products. 4 of 4 FC verified. 17 of 22 EC verified. NCRs 21313(3), 18187(3), 23190(4), 23073(3). Low risk - related to handling errors.

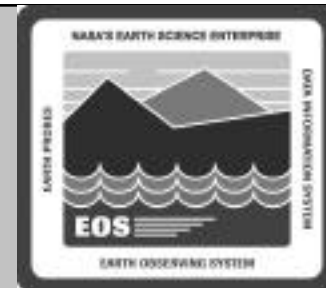


# Feature Group Status (4 of 7)



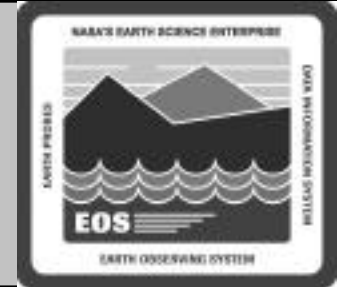
Functional Category	Feature Group Title	FC Status	EC Status	PC Status	Status Comments
Archive	Subscription Handling	V	V	VN	Subscription performance verified at LaRC; to be verified at GSFC and EDC during MOSS-2. <b>5A adds encryption of user passwords. 3 of 3 FC verified. 1 of 1 EC verified.</b>
Archive	New Data Type Installations	V	V	NA	<b>5A moves storage of SDSRV events from files to database. 1 of 1 FC verified.</b>
Production	AM-1 Ancillary Data Preprocessing	V	NV	NA	12 of 15 criteria verified. DPREP boundary conditions will be tested at GSFC during MOSS-2. <b>5A adds email notification if a data gap is detected. 4 of 4 FC verified. 0 of 3 EC verified. NCRs 23364(2), 23380(2). Errors handling gaps at the beginning or end of an interval. Additional NCRs related to missing and out of sequence data being worked.</b>

# Feature Group Status (5 of 7)



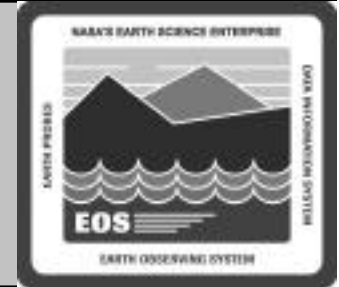
Functional Category	Feature Group Title	FC Status	EC Status	PC Status	Status Comments
Production	PGE Execution	W	V	VN	37 of 44 criteria verified. Nominal production working, special case production rules will be verified using -at launch- PGEs, e.g., Optional Inputs, Alternate Inputs, and Spatial Query; Performance verified at LaRC, to be verified at GSFC and EDC as part of MOSS-2. <b>5A adds internal implementation change for handling variations on search areas and product specific spatial representations. 1 of 1 FC verified.</b>
Production	Interim Product Support	V	V	NA	<b>5A adds PDPS support for deleting interim products from archive while retaining metadata and PH.</b>
Search and Order	Manage Data Dictionary	V	V	NA	<b>5A adds capability to add new DDICT valids or edit or delete existing valids. 1 of 1 FC verified.</b>

# Feature Group Status (6 of 7)



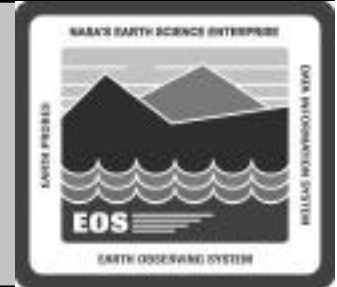
Functional Category	Feature Group Title	FC Status	EC Status	PC Status	Status Comments
Search and Order	V0 Interoperability via the V0 Web Gateway	W	W	VN	20 of 22 criteria verified. All FCs Verified except using Landsat 7 PSAs as search criteria (to be tested in I&T4h); in ECs have not tested SDSRV failures during request; Performance of L-7 search is slow. <b>5A adds ordering of production history and search results truncation. 3 of 5 FC verified, one NV and one NT. Ordering production history verified. Search results truncation verified. NCRs 23334(3), 23335(2). Spatial search does not return global granules. Global granules in search result have incorrect geo centers. Spatial search &gt; 180 degrees returns incorrect results.</b>
Distribution	Data Distribution and Display	V	V	NA	<b>5A adds ordering of production history data.</b>
Distribution	Landsat Distribution	V	V	V	12 of 14 criteria verified. All FCs verified. All ECs verified. Full performance to be verified in I&T4h or L-7 OPS. <b>5A adds L7 subsetting server auto-restart. 1 of 1 FC verified.</b>

# Feature Group Status (7 of 7)



Functional Category	Feature Group Title	FC Status	EC Status	PC Status	Status Comments
Distribution	Cross DAAC/Cross Mode Interface	NT	NA	NA	<b>5A adds cross-DAAC and cross-mode data transfers. 1 of 3 FC verified, 2 NT. Will be tested at DAACs. NCR 20246(2) Unable to re-ingest some metadata files generated by SDSRV.</b>
Management	Mode Management	V	V	NA	<b>5A adds operator gui for updating Active Modes file.</b>
Management	System Management and Monitoring	V	V	NV	9 of 10 criteria verified. All FCs verified. All ECs verified. Timely monitoring not verified. Workaround for launch is ECS Assist for timely monitoring. <b>5A adds support for Sybase monitoring and host resource monitoring using Tivoli.</b>
Management	Trouble Ticketing	W	V	NA	12 of 15 criteria verified. Trouble Ticket exchange with ASTER GDS, EBnet, and NSI will be tested in EGS-10. <b>5A adds trouble ticket import and export.</b>

# Y2K Test Approach



**End-to-End test scenarios were executed to verify rollover to the following dates:**

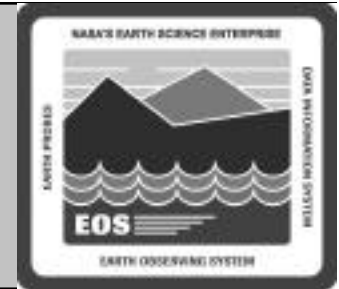
- **January 1, 2000 (First day of next century)**
- **February 28, 2000 (Leap Year Test)**
- **February 29, 2000 (Uncommon Leap Year)**
- **December 31, 2000 (366<sup>th</sup> Day of Uncommon Leap Year)**

**Tests verified**

- **The ability of the system to process data whose temporal coverage intersects these dates**
- **The ability of the system to process requests across these dates**

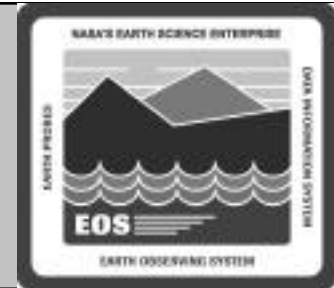
Verified **✓**      Not Verified **NV**      Not Tested **NT**

# Y2K Lien Assessment (1 of 2)



Test Case	Lien Assessment
TC0069 User Account Registration	Sev 3 NCR (21632), not Y2K related. GUI displays four digit year incorrectly. Low impact.
TC0070 Request Order Tracking	Sev 3 NCR (22953), not Y2K related. GMT is displayed on GUI instead of local time. Low impact.
TS0387 DMS Year 2000 Test	Sev 3 NCR (21721), not Y2K related. DDICT update collection function not working -- this has been descoped in A+. No impact.
TS0388 IOS Year 2000 Test	Sev 3 NCR (21723), not Y2K related. ESOD temporal searches do not work correctly. No impact, since user access to ESOD is not enabled with EDG.
TS0493 Pre-2000 Y2K Data Proc. - DPREP	Formal run not completed. Sev 2 NCR (22624). Failure matching DPREP input granules that were ingested out of order (Fixed but not delivered in 5A.epsilon). Sev 2 NCR (21999). Ingest fails to validate FDD filenames containing day 366 (Closed). Sev 2 NCR (20591), not Y2K related. Failure to remove cancelled jobs from queue (Closed). Impact is low. Plan to formally rerun in late August after delivery of first 5A roll-up patch.
TS0655.3 Leap Day/Year Data & Archive Test	Sev 2 NCR (21999). Ingest failure to properly handle day 366 in FDD file name (Closed). No impact.

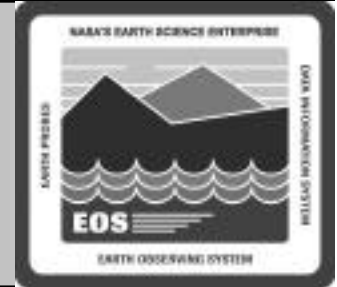
# Y2K Lien Assessment (2 of 2)



Test Case	Lien Assessment
TS0815.3 System Time Change Tests	Test was dry run 3 times but not formally run due to non-Y2K problems with L7 acquires which have been fixed. Sev 2 NCR (21517). DDIST database contains 2 digit year (Closed). Three other non-Y2K Sev 2 NCRs (21891, 21952, 21953) have been fixed. Impact is low as this is primarily a data distribution test and executing distribution requests across time boundaries is not considered a critical function. Plan to formally run test in late August timeframe.
Y100230.020 ASTER Product Subscription & QA	Sev 2 NCR (21341), not Y2K related. Error processing subscriptions with temporal qualifications (Closed). Sev 2 NCR (21740), not Y2K related. Some FTP push distributions failed due to NFS errors (Verified). Low Impact.
Y100230.040 MODIS Product Subscription & QA	Sev 2 NCR (21740), not Y2K related. Some FTP push distributions failed due to NFS errors (Verified). One Sev 2 NCR (21472) Zmail is not Y2K compliant. Replacing Zmail with Netscape Communicator. PSR in late July. Low Impact.
Y100230.040 L7 Product Subscription & QA	Sev 2 NCR (21740), not Y2K related. Some FTP push distributions failed due to NFS errors (Verified). Low Impact
Y120330.040 ASTER Routine Processing	One Sev 2 NCR (21471). Autosys event processor died during 12/31/99 - 1/1/00 crossover. Impact is low if vendor does not fix this. Recovery is to restart the event processor and the PGEs will continue without manual intervention.



# Y2K Test Assessment

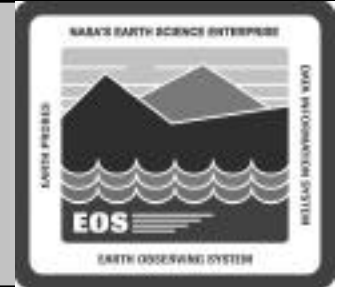


**ECS/SDPS is Y2K compliant with the exceptions noted**

**Identified liens are assessed to pose no significant risks to critical system operations**

**Will continue to close outstanding issues**

# Site Test Plan



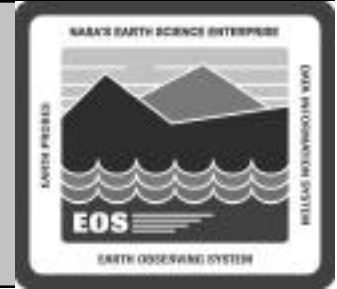
## Scope

- ECS Test personnel, in conjunction with DAAC, will perform 5A installation and basic checkout test
- Execute replacement orbit data ingest test (GSFC and LaRC)
- Execute cross-DAAC data transfer test (all DAACs)

## Proposed Schedule

- Depends on DAACs internal schedules
- GSFC 7/19 - 7/30
- LaRC 7/26 - 8/6
- EDC and NSIDC 8/9 - 8/20

# NSIDC ETE Test Plan

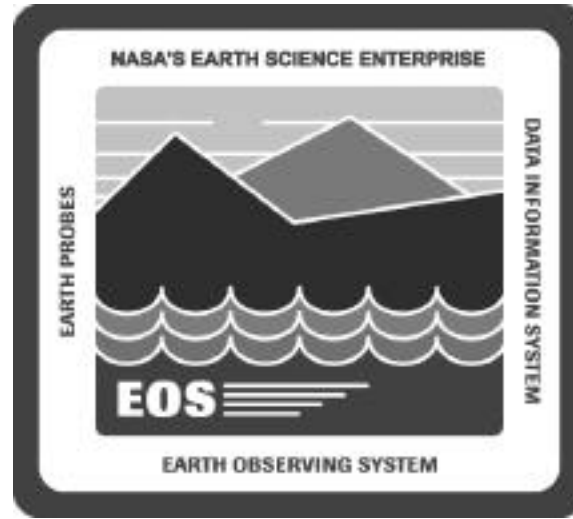


## Scope

- 8 hour test -- simulated external interfaces
- Ingest and archive 19.2 GB of MODIS products via SIPS interface
- Distribute 16 GB of MODIS products to users (50% electronic, 50% 8mm)
- Sustain 45 searches per hour against a 95K granule inventory

## Proposed Schedule

- Depends on decision on ingest configuration and associated H/W delivery, and NSIDC internal schedule
- Ingest H/W, S/W re-configuration (week of 8/9)
- ETE test onsite prep and execution (8/16 - 9/24)

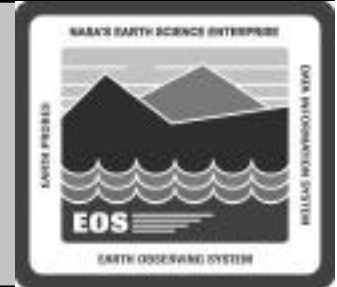


# **Non-Conformance Report (NCR) Status**

## **Randy Miller**

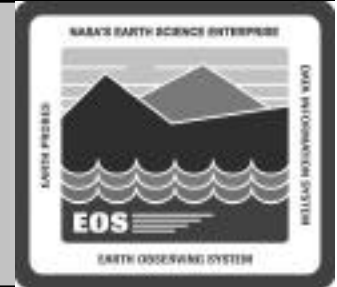
**21 July 1999**

# NCR Review Process For 5A CSR



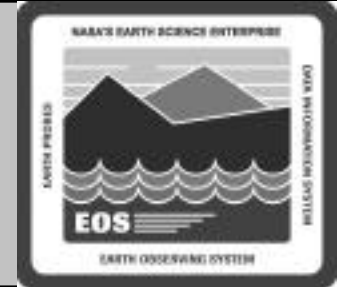
- **Severity 1 and Severity 2 NCRs in the RelB0\_Informal class were reviewed by the Construction Office for their impact**
  - **RelB0\_Informal is the DDTS class used to track NCRs that pertain only to software not yet in the field -- all NCRs specific to the 5A release should be in the RelB0\_Informal class**
  - **These NCRs were written by Development and by Test**
    - **Development NCRs arise from coding, unit test, and integration activities**
    - **Test NCRs arise from formal (AT and Y2K) and informal tests**
  - **New NCRs in this class are reviewed on a daily basis by the NCR Board**

## 5A NCRs



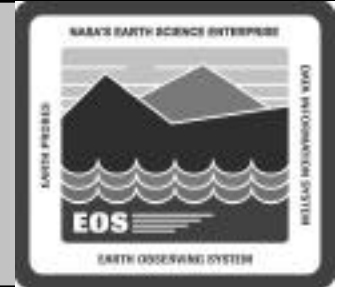
- **As of Tuesday, July 20th, there was Severity 1 NCR and 28 Severity 2 NCRs against 5A in RelB0\_Informal**
- **The Severity 1 (23406)**
  - **in 5A Epsilon, L7 IGS cannot be ingested due to incorrect delivery of a database patch. Recommend a manual fix, by amending install instructions prior to shipping to sites.**

# 5A NCRs



- Of the 28 Severity 2 NCRs,
  - Fourteen are newly discovered NCRs against the deployed baseline
    - 23372, 20208, and 10995 identify problems with the Production Request Editor (entry deletion and cleanup)
    - 23387, 23382, 23364, 23380, 21278 and 18409 identify problems related to DPREP (reprocessing, data dropout, data gaps)
    - 23335 identifies a problem with global searches
    - 21486 indicates a problem with spatial searches (SQS COTS)
    - 23375 describes a DDIST core dump, requiring warm restart
    - 19128 indicates a L7 subsetting issue (fixed, not statused)
    - 21103 describes a V0GW problem identified in the EDF w/BOS0T

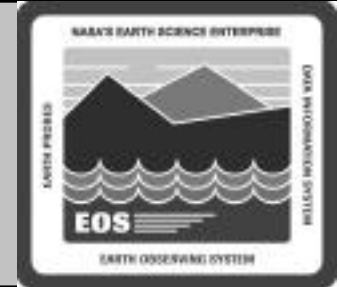
# 5A NCRs



- **Of the 28 Severity 2 NCRs, (continued)**
  - **Fourteen are NCRs against new functionality provided in 5A**
    - **Two installation issues with workarounds: 21692 and 21693**
    - **Five against SAGE III valids or PSAs: 22502, 23260, 23270, 21621, 21042**
    - **Six against SIPS: 23324, 23370, 20246, 23374, 23365, 23379**
    - **One identifies a possible Y2K problem in Autosys: 21471**

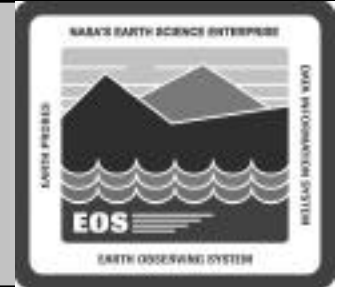


# Work-Off Plans

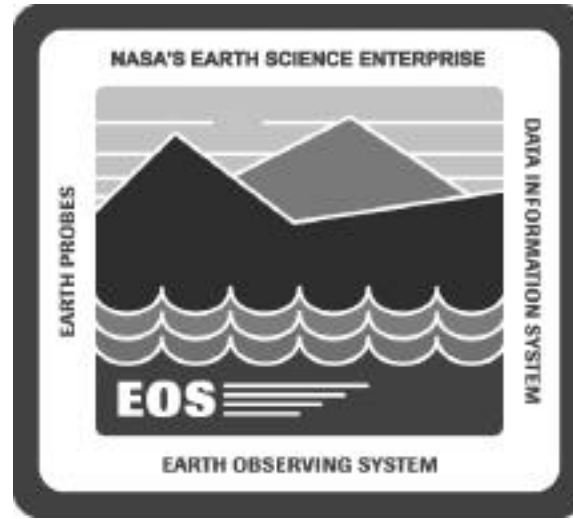


- **5A and 4PY are “synchronized” at 5A.Epsilon and 4PY.Keuka**
  - **Fixes for Severity 1 and 2 NCRs included in 4PY.Keuka are included in 5A.Epsilon**
  - **Periodic Roll-Up Patches**
    - Naming scheme to be determined
    - Scheduled every 4-6 weeks, depending on driving events
    - Content constrained by transition complexities until all sites are transitioned
    - Include NCR fixes and new functionality (Update ESDT, other 5P capabilities, priority list adds)

# Summary



- **There is one High Impact NCRs specific to 5A capabilities delivered in 5A.Epsilon (23406). This will be fixed (manually, with update to install instructions) prior to shipping 5A Epsilon.**
- **Of the Medium Impact NCRs delivered in 5A.Epsilon, those related to installation or to specific data types are expected to be resolved on or before 1 September.**
- **Several Medium Impact NCRs delivered in 5A.Epsilon affect processing, with particular impact on DPREP and DPR deletion. These are being worked aggressively, but will be prioritized against other NCRs against the deployed baseline.**

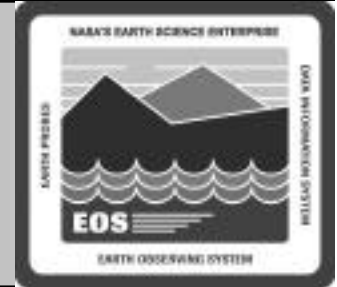


# Physical Configuration Audit (PCA)

-- report of ECS / ESDIS Team

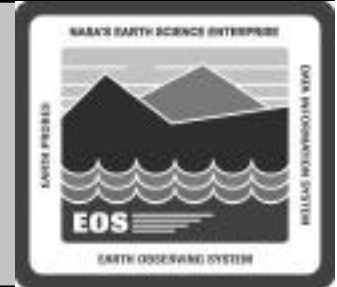
**Rich Gorsky**

# PCA Process



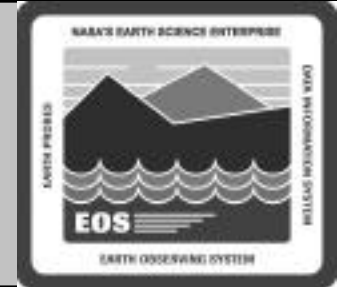
- **Retrieve “As-Built” Data Remotely**
  - Non-Interference Basis
  - Scheduled with DAAC in advance
- **Compare with Appropriate Baseline (5A)**
  - Analyzed by Team of Auditors from ESDIS, DAAC, ECS
- **Generate NCRs (COTS SW, O/S Patches, Custom)**
- **Prioritize NCRs**
- **NSIDC POCs Review NCRs**
  - Use Current NCR Process (Config\_Audit class)
  - Work Together with CM Leads at DAACs
- **NSIDC Validate NCRs**

# PCA Scope



- Large amount of configuration data audited
- Baseline included:
  - COTS SW 10 - 20 products per host
  - Operating Systems 30 - 40 patches per host
- Criteria: Was the host configured in accordance with the baseline?
- Analysis of Findings:
  - Properly Installed PI
  - Baseline Not Found BNF
  - Non-baseline Installed NBI
  - Other,
    - COTS SW Installations incorrect
    - OS Patches Anomalies identified
    - Custom Incorrect version ID, CkSums, or tar file inconsistencies

# Critical Products

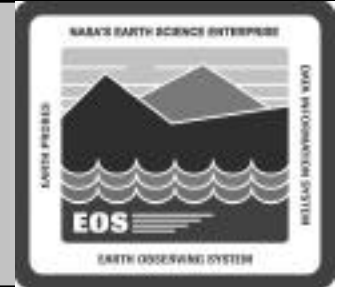


**Critical Products: Those COTS products required for the system to operate correctly. These are:**

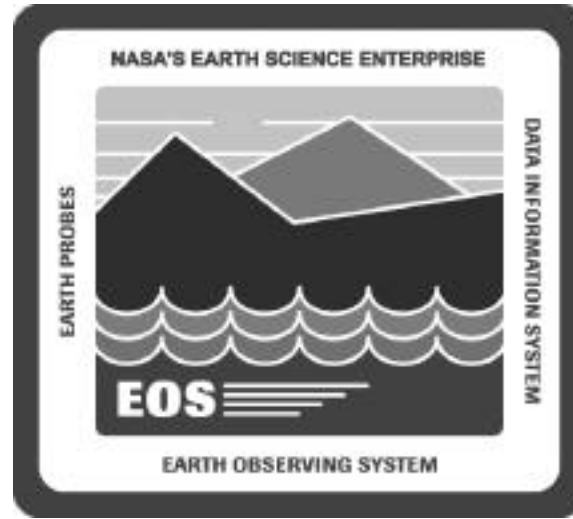
ACSLs	AMASS
AutoSys	DCE
Exabyte Driver	FlexLM
HDF Libraries	HP Openview
HP_UX	IMSL Libraries
IRIX	Netscape Enterprise Server
RAID Driver	RAID PROM
Rogue Wave tools (DBTools,h++, Tools.h++, Net.h++)	Solaris
ssh Securiy Shell	SQL Server and Monitor
Spatial Query Server (SQS)	Sybase OpenClient
Sun Volume Manager	
Veritas	

- **Any problem with installation of these products has the potential to affect the primary mission of the system.**
- **Assignment is in accordance with NCR classification.**

# Timelines



- June 19**      **Run scripts against NSIDC**
- July 6 - 8**      **Update 4PY as results of SW PCA**
- July 9**      **Clone XRP 4PY records to XRP 5A records**
- July 10**      **Generate DIFF Reports**
- July 12**      **Print Interrogation Reports for the audit**
- July 12 - 14**      **Perform the NSIDC COTS/OS SW PCA**
- July 19 - 30**      **Enter NCR into DDTs; initiate analysis**

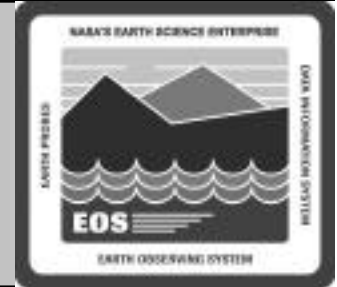


# Functional Configuration Audit (FCA)

21 July 1999

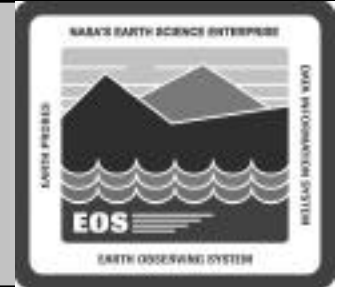


# FCA Objectives



- **Confirm:**
  - **ECS verification status is correct, traceable, and substantiated**
  - **Feature criteria is properly mapped**
  - **NCRs created during test execution are properly accounted for in DDTs**
  - **Test completion status is correct and substantiated by complete test records**

# FCA Scope and Process

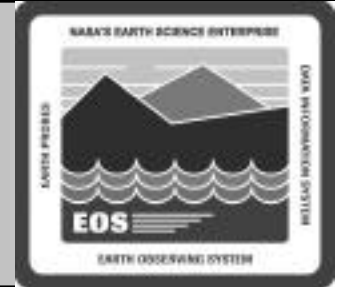


**Scope- 42 Drop 5A test folders audited for Functional Components (FC) and Error Conditions (EC)**

**Process-**

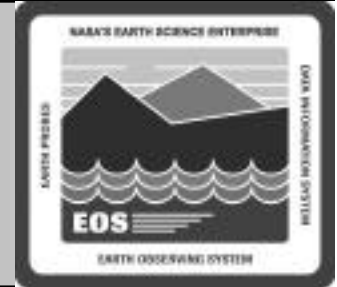
- **Joint ECS and ESDIS audit team**
- **Reviewed test folders, original artifacts, reports, and recorded significant findings**
- **Traced from original site test records to VDB**
- **Analyzed and summarized findings into categories:**
  - **Verification status**
  - **Criteria mapping and ticket findings**
  - **Other test folder observations**

# FCA Results

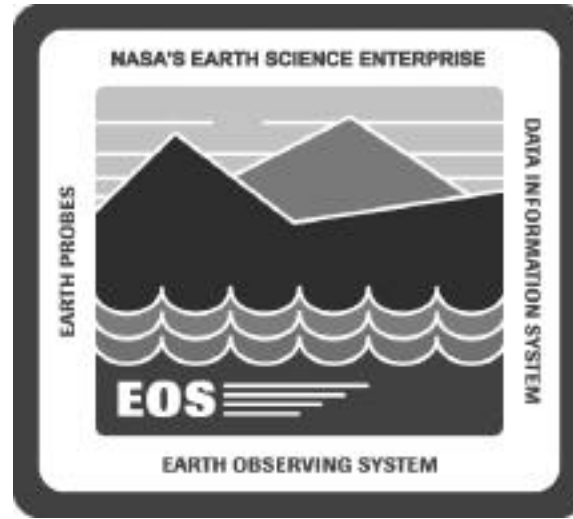


- **36 test folders audited, 6 in progress**
- **All criteria verification status confirmed as correct, in 36 Drop 5A test folders**
- **All verification questions researched and resolved**
- **No criteria mapping and ticket findings**
- **Other test folder observations are documented in each folder, and will be summarized for Test to facilitate training and process improvement.**

# FCA Conclusions



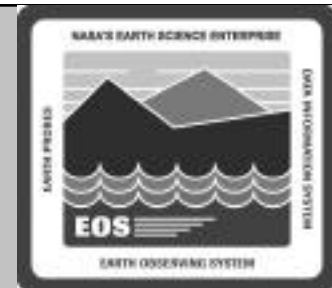
- **FCA Objectives achieved**
- **ECS Test continues to improve the quality, completeness and consistency of ECS test records**
- **Verification Database (VDB) contains accurate criteria verification status**



# CDRL Documentation Summary

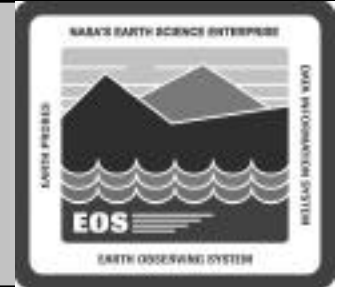
**Valecia Maclin**

# System Design Documents



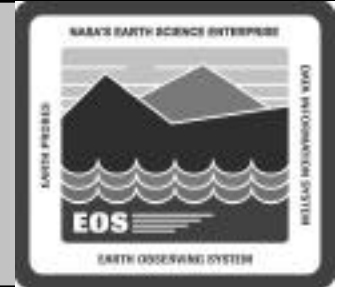
DID #	Document Title	Delivery Date
305/DV3 (P)#	Segment/ Design Specifications	Delivered 6/2/99
311/DV1#	Database Design and Database Schema Specification	Delivered 6/11/99
313/DV3	ECS Internal ICDs	Delivered 6/2/99
609/OP1#	Operational Tools Manuals	Delivered 5/28/99

# System Test Documents



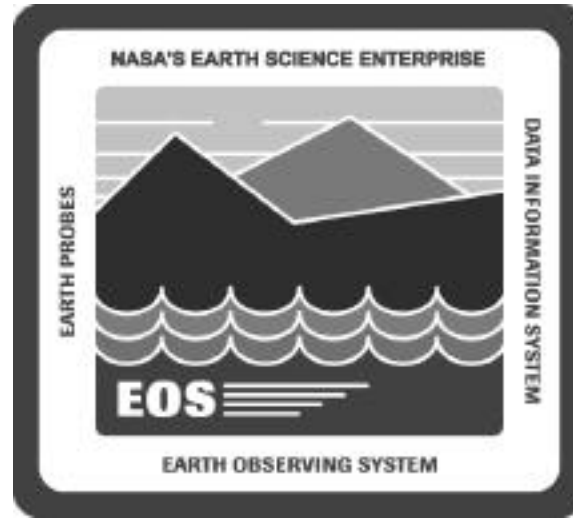
DID #	Document Title	Delivery Date
411/VE1	ECS Overall System Acceptance Test Procedures	<a href="http://dmserver.gsfc.nasa.gov/cm/accept.htm">http://dmserver.gsfc.nasa.gov/cm/accept.htm</a>
412/VE2	ECS Overall System Acceptance Test Report	CSR + 30 days
535/PA1	Acceptance Data Package	CSR + 30 days

# Ops Management/Support Documents



DID #	Document Title	Delivery Date
506/PA3	Audit Reports	CSR + 30 days
611/OP3#	Mission Operations Procedures	Delivered 7/15/99
625/OP3#	Training Material	Delivered 7/15/99
714/PP3	CSR Presentation Package	CSR + 2 Weeks

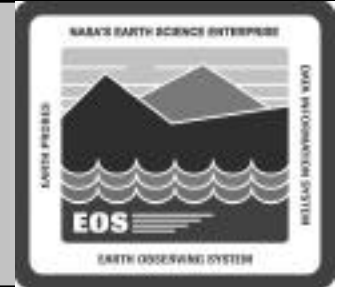




# Post-CSR Installation and Transition

**Dick Stafford**

# Agenda



**Background**

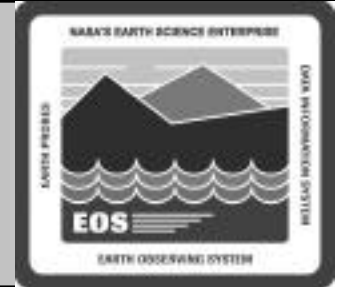
**Deployment Strategy**

**Deployment Approach**

- *Installation*
- *Transition*

**Deployment Schedule**

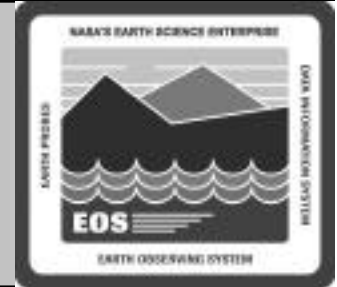
# Background



## Two methods of deploying custom software:

- **Pre-launch approach - *installation***
  - Databases rebuilt and ESDTs installed - data in archive not preserved
- **Post-launch approach - *transition***
  - Databases patched and ESDTs updated - data in archive preserved
  - Requires Update ESDT, 5A transition scripts, and ECS Assist enhancements
  - *Transition* is more complex than *installation*

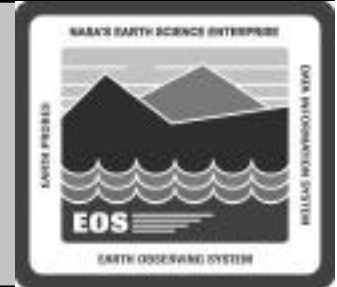
# Background (cont'd)



## Deployment constraints

- Choice of *installation* or *transition* dependent on launch date
- EDC must use *transition* approach
- NSIDC will *install*, independent of launch decision
- To fully support Y2K, should have 5A in by early December
- DAACs must regression test operational PGEs for 5A

# Deployment Strategy



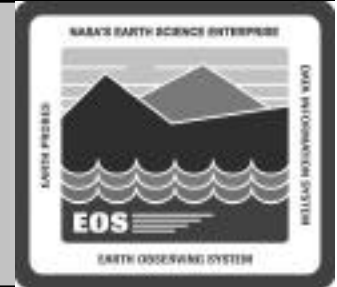
## Began preparations early

- DAACs deploy 5A shared code (5A.gamma)
  - GSFC, LaRC, NSIDC complete
  - EDC scheduled 8/9/1999
- All DAACs *install* 5A.epsilon in a test mode(s) to gain familiarity with 5A and 'get a jump' on Ops installation

## Deployment agreements with DAACs

- GSFC, LaRC, and NSIDC will *install* pre-launch
- EDC will *transition*

# Deployment Strategy (cont'd)



## **GSFC *install* in TS2 started on 7/19/1999**

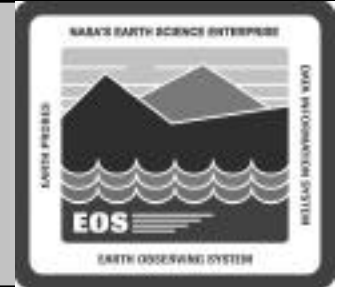
- Purpose is to ensure there is a comprehensive set of accurate install instructions
- All DAACs participated

## **Other *installations***

- NSIDC *install* in TS1 starting on 8/9/1999
- LaRC *install* in TS2 starting on 7/26/1999
- EDC *install* in TS1 starting on 8/23/1999 (will back out prior to transition)

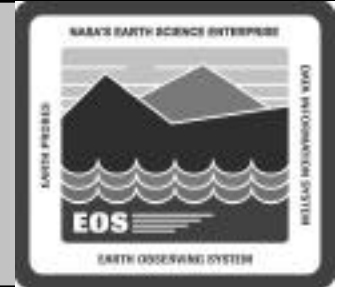
## ***Transition* at EDC after 10/8/1999**

# Deployment Approach - *Installation* (GSFC, LaRC, NSIDC)



- **Process**
  - Standard installation on clean system
  - Reinstall ESDTs (archived data not preserved)
  - Rebuild databases (data not preserved)
  - Reconfigure servers as required
  - Reload data (test and/or launch data)
  - Regression test, including operational PGEs
- **Documentation**
  - Standard installation instructions
  - Release notes

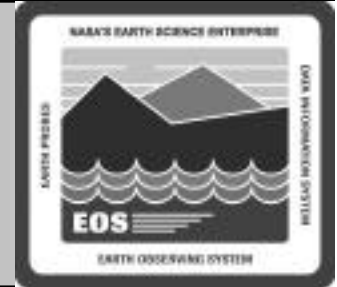
# Deployment Approach - *Installation (cont'd)*



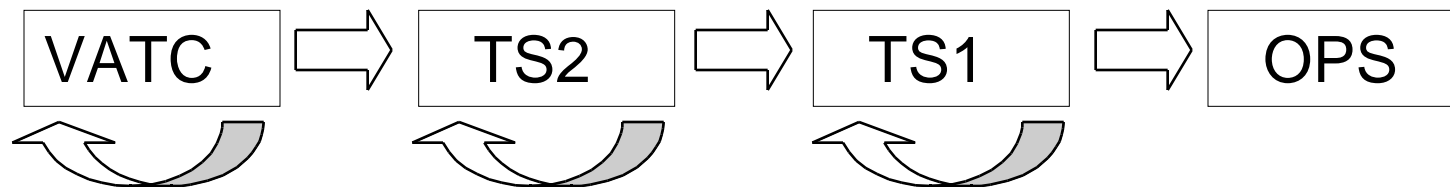
- **Technical support**
  - DAACs responsible for planning and implementing the installation, checkout and test
  - Remote technical support via M&O Help Desk
  - On-site support (installation or test) as requested in advance by DAACs
- **Issues**
  - Basic installations are well understood
  - Early install at GSFC to refine installation procedures



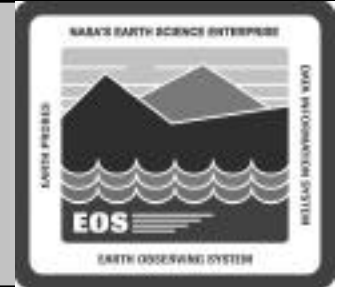
# Deployment Approach - *Transition (EDC)*



- **Preparation: Build on the success of 4PY transition at EDC**
  - Configuration save and restore scripts
  - Enhanced automation of installation (ECS Assistant)
  - Database patch and verification scripts
  - Integrated team - DAAC, development and test
  - Phased approach used to validate procedures and train team



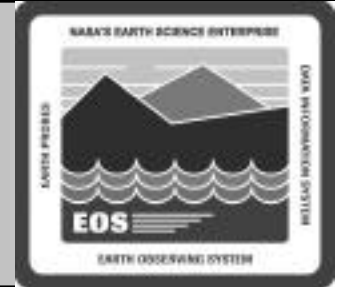
# Deployment Approach - *Transition* (cont'd)



- **Process**

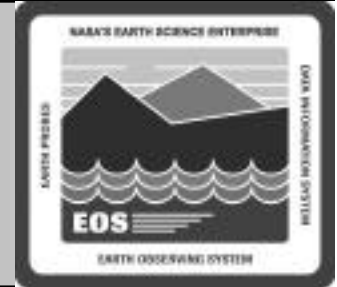
- Rehearse/train in the VATC, TS2, and TS1
- Backup software/databases/configuration for fallback
- Quiesce the system
- Staged software installation on clean system
- Patch configuration files
- Patch databases (metadata is preserved)
- Verify databases and archive contents
- Update all ESDTs (archived data is preserved)
- Checkout installation
- Regression test operational PGEs in TS1 mode

# Deployment Approach - *Transition* (cont'd)



- **Documentation**
  - Transition Plan, 211-TP-005-002
  - Detailed *transition* procedures incorporated into *installation* instructions
  - Release notes
  - Checkout procedures upgraded for 5A capabilities
- **Technical support**
  - DAACs responsible for planning and implementing the installation, checkout and test
  - On-site support (installation and test) expected

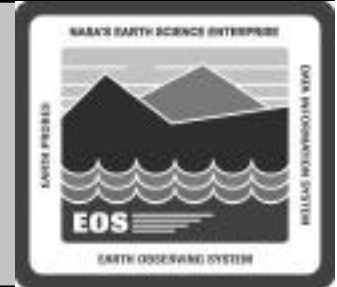
# Deployment Approach - *Transition* (cont'd)



## Transition risks and their mitigation

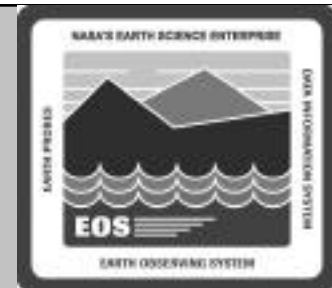
- **Data loss due to excessive downtime**
  - Plan for ~50% contingency on transition duration
  - Back-out plan (e.g. use special save restore scripts to fall back to previous release)
  - Practice, practice, practice
- **Data/metadata loss or corruption**
  - Multi-level backup strategy including Legato full/incremental backups, special configuration save/restore scripts
  - Detailed database verification (special scripts and database checksums)
- **Based on experience with 4PY *transition* the risk is low**

# Deployment Schedule



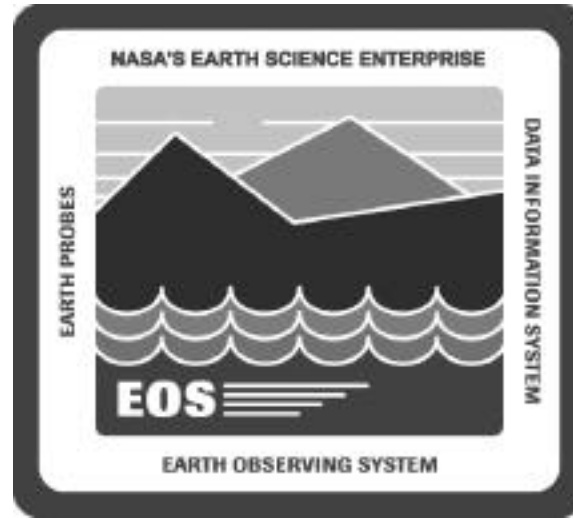
- **Deployment strategy/schedule driven by launch date**
- **Constraints**
  - On-going operations (e.g. SSI&T)
  - PGE regression testing
  - LaRC insertion of static data by L-21
  - Y2K

# Deployment Schedule (cont'd)



ID	Task Name	Start Date	End Date	1999					
				Jul	Aug	Sep	Oct	Nov	Dec
1	Terra launch planning date	09/13/1999	09/13/1999	09/13/1999 ◆ 09/13/1999					
2	5A Shared install @ all DAACs	07/05/1999	08/09/1999	[REDACTED] 08/09/1999 GSFC, LaRC, NSIDC complete					
3	5A CSR	07/22/1999	07/22/1999	◆					
4	GSFC Install	07/19/1999	08/13/1999	[REDACTED] 08/13/1999					
5	LaRC Install	07/26/1999	08/18/1999	[REDACTED] 08/18/1999					
6	NSIDC Install	08/09/1999	09/06/1999	[REDACTED] 09/06/1999					
7	Transition S/W development	07/05/1999	09/01/1999	[REDACTED] 09/01/1999					
8	Transition SW integration	08/10/1999	09/16/1999	[REDACTED] 09/16/1999					
9	Checkout/rehearsal in VATC	09/17/1999	10/07/1999	09/17/1999 [REDACTED] 10/07/1999					
10	EDC install/test (TS1)	08/23/1999	08/30/1999	[REDACTED] 08/30/1999					
11	EDC transition	10/08/1999	10/28/1999	10/08/1999 [REDACTED] 10/28/1999					

Installation schedule based on DAAC inputs as of 7/20/1999

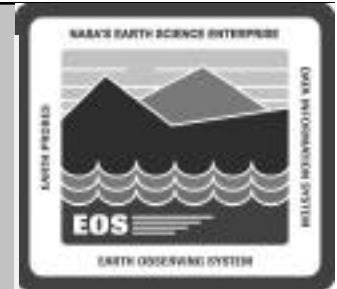


# **ECS Support To Site Readiness**

report of ECS Team

**Jude E. Edwards**

# ECS Support To Site Readiness



## **Training Schedule Developed In Response To Course Requests**

- **Training Impacts Associated with 5A Minimal**
  - **Courses Updated for 5A**
  - **Cross DAAC Data Transfer**
  - **SIPS Interface Special Training**
- **611 Document Updated - Change Bars Added**

## **Status Of Workaround Management Process**

- **Trade Study Completed**
- **Presently Building A Prototype Model**

## **5A COTS Upgrade Status**

- **COTS Requirements Already Deployed**

## **5A Shared Mode Installed at GSFC, LaRC, NSIDC**